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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/608,976	06/30/2000	Douglas P. Brown	NCRC-0012-US(9020)	1448

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EXAMINER
NGUYEN, CINDY

ART UNIT	PAPER NUMBER
2171	

DATE MAILED: 12/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/608,976	BROWN ET AL.
	Examiner	Art Unit	
	Cindy Nguyen	2171	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 October 2002* .

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-34* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 June 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)		4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)		5) ☐ Notice of Informal Patent Application (PTO-152)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *4-5* .		6) ☐ Other:

DETAILED ACTION

This is in response to amendment filed on 10/28/2002.

1.   *Information Disclosure Statement*

The information disclosure statement filed on Feb 18, 2001 and March 12, 2001 are in

compliance with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609. Because They had

been placed in the application file, and the information referred to therein has been considered

as to the merits.

2.   *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set

forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102
> of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject
> matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art
> to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 1-6, 9-22, 30, 31 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Carino, Jr. (U.S.6067542) (Carino) in view of MacLeod et al. (6434545) (MacLeod).

Regarding claim 1, Carino, Jr.: A method of presenting an execution plan for a query,

(see col. 3, lines 45-49, Carino Jr.) comprising: determining steps of the query execution plan in

a parallel database system (see col. 8, lines 40-52, Carino Jr.) However, Carino, Jr. did not

specifically detail the step of depicting and display in the parallel execution steps. On the other

hand, MacLeod disclose: display the steps of the query execution plan in a graphical user

interface (210, 211, fig. 6 and corresponding text, MacLeod), depicting parallel execution of

steps of the query execution plain in the graphic user interface (col. 8, lines 29-67, MacLeod).

Thus, at the time invention was made, it would have been obvious to a person of ordinary skill in

the art to include the steps to display and depict the query execution plan in GUI in the system of

Carino as taught MacLeod. The motivation being to have enabled a user to provide information

for optimizing a query in a massively parallel system and to pop up multiple display screens

illustrating multiple execution query plans so that the user may select the most desirable.

Regarding claim 30, all the limitations of this claim have been noted in the rejection of claim 1.

It is therefore rejected as set forth above.

As per claim 2, the limitations of this claim have been noted in the rejection of claim 1.

Applicant's attention is directed to the rejection of claim 1 above. In addition, Carino/ MacLeod

discloses " wherein determining the steps comprises determining steps of the query execution plan in the

parallel database system running in a multiprocessing platform having plural nodes" (col. 9, lines 6-60,

Carino, Jr.).

Regarding claim 3, the limitations of this claim have been noted in the rejection of claim 1.

Applicant's attention is directed to the rejection of claim 1 above. In addition, Carino/ MacLeod

discloses: "Wherein determining the steps comprises determining steps of the query execution plan in

the parallel database system running in a platform having plural virtual processors to handle access to

data in the parallel database system" (see col. 9, lines 15-25, Carino Jr.).

As per claim 4, the limitations of this claim have been noted in the rejection of claim 1.

Applicant's attention is directed to the rejection of claim 1 above. In addition, Carino/ MacLeod

disclose: " displaying the steps as icons" (211, fig. 6 and corresponding text, MacLeod.).

As per claim 5, the limitations of this claim have been noted in the rejection of claim 1.

Applicant's attention is directed to the rejection of claim 1 above. In addition, Carino, Jr.

discloses: wherein the database management system is executable in a platform" (see 106, Fig. 1,

and corresponding text, Carino, Jr.). Carino/ MacLeod disclose: wherein displaying the icons

comprises display one or more of the icons selected from the group consisting of an icon

representing a table (col. 8, lines 7-27, MacLeod), an icon representing an operation performed

on a component of the platform (col. 8, lines 7-27, MacLeod), an icon representing a query

statement (col. 7, lines 49-56, MacLeod), icon representing an operation performed on two or

more tables (col. 8, lines 7-48, MacLeod).

As per claims 6 and 31, the limitations of these claims have been noted in the rejection of claims

1 and 30, respectively. In addition, Carino/MacLeod discloses the steps of the query execution plain is

performed by an optimizer (col. 14, lines 39-65, Carino, Jr.).

As per claim 9, the limitations of this claim have been noted in the rejection of claim 1.

Applicant's attention is directed to the rejection of claim 1 above. In addition, Carino/MacLeod

disclose displaying explain text of the query execution plan (col. 6, lines 55-61, MacLeod).

Regarding claim 10, the limitations of this claim have been noted in the rejection of claim 9.

Applicant's attention is directed to the rejection of claim 9 above. In addition, Carino/MacLeod

disclose: wherein the explain text comprises displaying the explain text in a first screen and wherein

displaying the steps of the query execution plan comprises displaying the steps in a second screen (fig. 5 and corresponding text, MacLeod).

Regarding claim 11, all the limitations of these claims have been noted in the rejection of claim 1. It is therefore rejected as set forth above.

Regarding claim 12, the limitations of this claim have been noted in the rejection of claim 11. Applicant's attention is directed to the rejection of claim 1 above. In addition, Carino/MacLeod disclose: wherein displaying the first and second execution plans comprises displaying the execution plans in a graphical user interface (fig. 5 and fig. 6 and corresponding text, MacLeod).

Regarding claim 13, the limitations of this claim have been noted in the rejection of claim 11. Applicant's attention is directed to the rejection of claim 11 above. Carino/MacLeod disclose: wherein displaying the first and second execution plans comprises displaying the execution plans in a graphical user interface having a first screen to display the first execution plan and a second screen to display the second execution plan (fig. 5 and fig. 6 and corresponding text, MacLeod).

As per claim 14, the limitations of this claim have been noted in the rejection of claim 11. Applicant's attention is directed to the rejection of claim 11 above. In addition, Carino/MacLeod disclose: displaying the first and second execution plans comprises displaying a collection of icons to represent steps of each of the execution plans (col. 7, lines 49 to col. 8, lines 51, MacLeod).

As per claim 15, the limitations of this claim have been noted in the rejection of claim 11. Applicant's attention is directed to the rejection of claim 11 above. In addition, Carino/MacLeod discloses: a third execution plan of the query under a third condition (col. 9, lines 51-65, Carino Jr.) and displaying the first, second and third execution plans concurrently to enable comparison of the execution plans" (fig. 9 and corresponding text, MacLeod).

Regarding claims 16-17, the limitations of this claim have been noted in the rejection of claim 11. Applicant's attention is directed to the rejection of claim 11 above. In addition, Carino/MacLeod discloses: query in cooperation with the first version of a software module and the second execution plan comprises determining an execution plan for the query in cooperation with a second version of the software module of the parallel database system (see Fig. 4 and corresponding text, Carino, Jr.).

Regarding claims 18-19, the limitations of this claim have been noted in the rejection of claim 11. Applicant's attention is directed to the rejection of claim 11 above. In addition, Carino/MacLeod discloses: wherein determining the first execution plan comprises determining an execution plan for the query in the system having a first arrangement and the second execution plan comprises determining an execution plan for the query in a system having a second arrangement (see col. 15, lines 52 to col. 16, lines 63, Carino, Jr.).

Regarding claim 20, the limitations of this claim have been noted in the rejection of claim 11. Applicant's attention is directed to the rejection of claim 11 above. In addition, Carino/MacLeod

disclose: wherein determining the first execution plan comprises determining execution plan involving a table having a first content" (see col. 14, lines 58-65, Carino Jr.).

Regarding claim 21-22, the limitations of this claim have been noted in the rejection of claim 11. Applicant's attention is directed to the rejection of claim 11 above. In addition, Carino/MacLeod disclose: wherein determining a second content contains statistics (see col. 18, lines 33-43, Carino Jr.).

Regarding claim 34, the limitations of this claim have been noted in the rejection of claim 30. In addition, Carino/MacLeod disclose: further determine a second execution plan of the query for the parallel database system (col. 9, lines 6-60, Carino, Fr.); display the step of the second execution plan concurrently with the steps of the first execution plan in the graphical user interface (fig. 5 and fig. 6 and corresponding text, MacLeod).

4.   **Claims 23-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carino, Jr. (U.S.6067542) (Carino) in view of Kleewein et al. (U.S 5943666) (Kleewein).**

Regarding claim 23, Carino disclose: a graphic user interface (fig. 5 and corresponding text, Carino); the controller to displaying a representation of the execution plan in the graphical user interface (506, fig. 5 and corresponding text, Carino), in which a parallel database system is implemented (col. 13, lines 40-65, Carino). However, Carino didn't disclose: a controller to determine an execution plan of a query based on emulation data that emulates an environment of a target system. On the other hand, Kleewein disclose: a controller to determine an execution

plan of a query based on emulation data that emulates an environment of a target system (col. 4,

lines 54-67, Kleewein). Thus, at the time invention was made, it would have been obvious to a

person of ordinary skill in the art to include a controller to determine an execution plan of a

query based on emulation data that emulates an environment in the system of Carino as taught by

Kleewein. The motivation being to enable to imitate the system can run on the other system

environment as well.

Regarding claim 24, the limitations of this claim have been noted in the rejection of claim 23.

Applicant's attention is directed to the rejection of claim 23 above. In addition, Carino/ Kleewein

discloses: wherein the emulation data comprises cost-related information including a number of nodes in

the target system and number of CPUs in each node (see Fig. 4 and corresponding text, Carino Jr.).

Regarding claim 25, the limitations of this claim have been noted in the rejection of claim 23.

Applicant's attention is directed to the rejection of claim 23 above. In addition, Carino/ Kleewein

discloses: wherein the emulation data comprises cost-related information including a number of virtual

processors running in the target system (col. 13, lines 40-64, Carino Jr.).

Regarding claim 26, the limitations of this claim have been noted in the rejection of claim 23.

Applicant's attention is directed to the rejection of claim 23 above. In addition, Carino/ Kleewein

discloses: " wherein the emulation data comprises cost-related information relating to costs of doing

operations in the target system (see col. 14, lines 61-65, Carino Jr.).

Regarding claim 27-28, the limitations of these claims have been noted in the rejection of claim

23. Applicant's attention is directed to the rejection of claim 23 above. In addition, Carino/ Kleewein

discloses: wherein the emulation data represents a target system having a multi-node parallel processing

system (see col. 9, lines 7-14, Carino, Jr.) and having a single-node multiprocessing system (see col. 14,

lines 14-18, Carino, Jr.).

Regarding claim 29, the limitations of this claim have been noted in the rejection of claim 23.

Applicant's attention is directed to the rejection of claim 23 above. In addition, Carino/ Kleewein

discloses: wherein the emulation data represents a target system running plural virtual processors for

handling access to the parallel database system (see Fig. 4 and corresponding text, Carino, Jr.).

5.   **Claims 7, 8, 32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Carino, Jr. (U.S.6067542) (Carino) in view of MacLeod et al. (6434545) (MacLeod) and further in

view of Kleewein et al. (U.S 5943666) (Kleewein).**

As per claim 7, the limitations of this claim have been noted in the rejection of claim 6.

Applicant's attention is directed to the rejection of claim 6 above. However, Carino/MacLeod

didn't disclose: the steps of the query execution plain is performed by an optimizer based on

emulated environment data of a target system, emulated environment data present in a test

system. On the other hand, Kleewein disclose: wherein determining the steps of the query

execution plain is performed by an optimizer based on emulated environment data of a target

system, emulated environment data present in a test system (col. 5, lines 55-61, Kleewein).

Thus, at the time invention was made, it would have been obvious to a person of ordinary skill in

the art to include the steps of the query execution plain is performed by an optimizer based on

emulated environment data of a target system, emulated environment data present in a test

system in the combination system of Carino/MacLeod as taught by Kleewein. The motivation

being to enable to imitate the system can run on the other system environment as well.

As per claim 8, the limitations of this claim have been noted in the rejection of claim 1. In

addition, Carino/MacLeod/Kleewein discloses: the steps of the query execution plain is performed in a

test system based on emulated environment data of a target system that is separate from the test system

(col. 5, lines 40-64, Kleewein).

Regarding claim 32, the limitations of this claim have been noted in the rejection of claim 30. In

addition, Carino/MacLeod/Kleewein discloses: wherein the instructions when executed cause the

controller to receive environment information to emulate a target database system (col. 5, lines 15-40,

Kleewein).

Regarding claim 33, the limitations of this claim have been noted in the rejection of claim 32. In

addition, Carino/MacLeod/Kleewein discloses: wherein the instructions when executed cause the

controller to determine the execution plan of the query based on the environment information (col. 5,

lines 55-64, Kleewein).

6.   *Response to Arguments*

Applicant's arguments with respect to claims 1-34 have been considered but are moot in view of the new ground(s) of rejection.

7.   Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Jones et al. (U.S 6415307). Publication file conversion and display.

8.   Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cindy Nguyen whose telephone number is 703-305-4698. The examiner can normally be reached on M-F: 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic can be reached on 703-308-1436. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7240 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Cindy Nguyen
December 17, 2002

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